

**Translation**

**PATENT COOPERATION TREATY**

**PCT**

**INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY**  
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference <b>TEX-27-PCT</b>	<b>FOR FURTHER ACTION</b> See Form PCT/IPEA/416	
International application No. <b>PCT/DE2004/000543</b>	International filing date (day/month/year) <b>17.03.2004</b>	Priority date (day/month/year) <b>21.03.2003</b>
International Patent Classification (IPC) or national classification and IPC		
Applicant <b>TEXTRON VERBINDUNGSTECHNIK GMBH &amp; CO. OHG</b>		

- This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
- This REPORT consists of a total of 6 sheets, including this cover sheet.
- This report is also accompanied by ANNEXES, comprising:
  - ☐ (sent to the applicant and to the International Bureau) a total of \_\_\_\_\_ sheets, as follows:
    - ☐ sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).
    - ☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.
  - ☐ (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) \_\_\_\_\_, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

- This report contains indications relating to the following items:

- |                                     |              |   |
|-------------------------------------|--------------|---|
| <input checked="" type="checkbox"/> | Box No. I    | Basis of the report   |
| <input type="checkbox"/>            | Box No. II   | Priority  |
| <input type="checkbox"/>            | Box No. III  | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability  |
| <input type="checkbox"/>            | Box No. IV   | Lack of unity of invention  |
| <input checked="" type="checkbox"/> | Box No. V    | Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |
| <input type="checkbox"/>            | Box No. VI   | Certain documents cited   |
| <input type="checkbox"/>            | Box No. VII  | Certain defects in the international application  |
| <input type="checkbox"/>            | Box No. VIII | Certain observations on the international application   |

Date of submission of the demand	Date of completion of this report
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/DE2004/000543

Box No. I Basis of the report

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language \_\_\_\_\_, which is the language of a translation furnished for the purposes of:
- ☐ international search (Rule 12.3 and 23.1(b))
- ☐ publication of the international application (Rule 12.4)
- ☐ international preliminary examination (Rule 55.2 and/or 55.3)
2. With regard to the **elements** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:
- ☐ the international application as originally filed/furnished
- ☒ the description:
- pages 1-5 \_\_\_\_\_ as originally filed/furnished
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☒ the claims:
- nos. 1-7 \_\_\_\_\_ as originally filed/furnished
- nos.\* \_\_\_\_\_ as amended (together with any statement) under Article 19
- nos.\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- nos.\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☒ the drawings:
- sheets 1/1 \_\_\_\_\_ as originally filed/furnished
- sheets\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- sheets\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.
3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, nos. \_\_\_\_\_
- ☐ the drawings, sheets/figs \_\_\_\_\_
- ☐ the sequence listing (*specify*): \_\_\_\_\_
- ☐ any table(s) related to sequence listing (*specify*): \_\_\_\_\_
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, nos. \_\_\_\_\_
- ☐ the drawings, sheets/figs \_\_\_\_\_
- ☐ the sequence listing (*specify*): \_\_\_\_\_
- ☐ any table(s) related to sequence listing (*specify*): \_\_\_\_\_

\* If item 4 applies, some or all of those sheets may be marked "superseded."

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

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Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement		
1. Statement			
Novelty (N)	Claims	5-7	YES
	Claims	1-4	NO
Inventive step (IS)	Claims	6	YES
	Claims	1-5, 7	NO
Industrial applicability (IA)	Claims	1-7	YES
	Claims		NO
2. Citations and explanations (Rule 70.7)			
D1: DE-A-43 01 608			
D2: EP-A-0 380 770			
D3: EP-A-0 544 458			
D4: US-A-4 879 978			
D5: DE-A-41 20 892			
D6: JP-A-10317026			
1) Novelty Claims 1-4			
1.1) D1 discloses (figure 3) a valve spring plate for supporting the spring forces of locking springs 28 that act on gas exchange valves in the valve actuation of internal combustion engines, with a reinforcement part 14 made of a less solid material (plastic) and an annular support part 46 arranged between the reinforcement part and the locking spring and made of a more solid material (sheet metal), the support part being retained in a friction fit on the reinforcement part (the sheet metal support 46 is pressed on: see D1, column 3, lines 31-37).			
These features are also known from D2 or D3:			

Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
	<p>The valve shaft seal 1 from D3 or 10 from D4 serves with its flange 7 or, in D4, 14, 26 to support the resilient forces of locking springs 28 that act on gas exchange valves in the valve actuation of internal combustion engines and therefore constitutes a valve spring plate; said valve spring plate has a reinforcement part 6 or 14 made of a less solid material (see D2, column 3, lines 5-8: unhardened steel; see D3 "the upper hollow cylindrical shell 12 may be any suitable material, including metal or plastic") and an annular support part 10 arranged between the reinforcement part 6, 7 and the locking spring 8 and made of a more solid material (D2: hardened steel disc; D3: "The lower shell 14 is preferably a hard material, such as metal, which can support the valve coil spring 28 at the surface of the seat"), wherein the support part is retained in friction fit (D2: by friction of the tongues 11 on the reinforcement part 6; D3: "The upper and lower shells 12 and 14 are manufactured separately and then assembled in a permanent friction slip-fit relationship") on the reinforcement part.</p> <p>These features can also be derived from D4: reinforcement part 22 made of plastic, annular support part 56 made of steel.</p> <p>1.2) D1 discloses further the features of claims 2, 3 and 4:</p> <ul style="list-style-type: none"><li>- the support part 46 has (see figure 3) a radially inwardly situated annular section that is</li></ul>

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Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

retained on a hub section 40 of the reinforcement part;

- the support part 46 can be pressed on (see column 3, line 36) and is therefore fixed to the reinforcement part with a slight press fit;
- the support part is L-shaped in cross-section (see figure 3) and its radially inwardly situated annular section is situated with a slight press fit on the hub section 40 of the reinforcement part 14.

These features are also known from D3.

The present application does not meet the requirements of PCT Article 33(1) because the subject matter of claims 1-4 is not novel (PCT Article 33(2)).

2) Inventive step: claims 5, 7

2.1) D1 does not disclose the metal from which or the method by which the support part is manufactured. However, it is known that a preferred material for the manufacture of metallic support parts for valve springs is steel: see D2, column 3, lines 5-14 or D3, column 4, lines 64-66, or D4, column 1, lines 39-42.

It is known, in addition, that metal parts that are L-shaped in cross-section are manufactured using a deep-drawing method; this also applies to parts made of steel: see D2, column 2, lines 47-51.

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Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability;  
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The features of claim 5 are therefore obvious.

- 2.2) D5 or D6 describe reinforcement parts made of a light metal alloy, in particular an aluminium alloy. Since the valve spring plates as per D1, D2, D3 or D4 have a spring support which protects the reinforcement part from the spring, a light metal alloy according to the teaching of D5 or D6 can be used in D1-D4.

The present application does not meet the requirements of PCT Article 33(1) because the subject matter of claims 5 and 7 does not involve an inventive step (PCT Article 33(3)).